

## SETA TRI-GAUGE VISCOSITY COMPARATOR

### QUALITY CONTROL INSTRUMENTS

STANHOPE-SETA

P/N: 8819252000

NOTE: The numbered scales are not normally read for a GO / NO-GO test. They provide an indication of relative viscosity. When the first ball reaches the bottom, the graduation indicates relative viscosity. Using reference oils of known viscosities, that of an unknown oil can be closely approximated.

The Tri-Gauge is then ready for the next test.

6. After completion of the test, the centre (sample) bore and ball is cleaned and dried.

cous, a faster ball, that it is less viscous.

maximum and minimum limits. A slower ball indicates that the sample is more viscous and right hand bores, the sample is acceptable, having a viscosity between the and right hand bores, the centre ball reaches the bottom between the time of arrival of those in the left

5. If the centre ball reaches the bottom between the time of arrival of those in the left hand bore, the base deliberately tilts the scale face towards the operator so that a ball produces a bright spot in dark oils. Observe the order of descent.

4. Quickly invert the device and stand it vertically on a level surface so that the balls descend again. The base deliberately tilts the scale face towards the operator so

that all three balls are at the fill plug end of the bores, the Tri-Gauge is ready.

3. Allow time (e.g. 10 minutes in a water bath) for the gauge and oils to temperature stabilise, then stand the Tri-Gauge with fill plug end downward on a flat surface.

2. Fill the centre bore with a sample of the oil to be tested.

1. Fill the left-hand bore with an untitrated oil maximum acceptable viscosity and the right-hand bore with an oil of minimum acceptable viscosity. These reference oils may represent the  $\pm 10\%$  values or any other asymmetric limits required and can remain in the Tri-gauge for subsequent tests with those limits.

## 4 OPERATION

Remove the stopper, fill the bore to the shoulder, place the nylon line (provided to produce an air path past the seal) about 2 cm into the bore and insert the stopper holding it firmly in position while the line is withdrawn.

## 3 FILLING

Viscosity is a good guide to the deterioration of lubricating oils due to such causes as crank-case dilution by diesel fuels and loss of lubricity by extended use or from contamination.

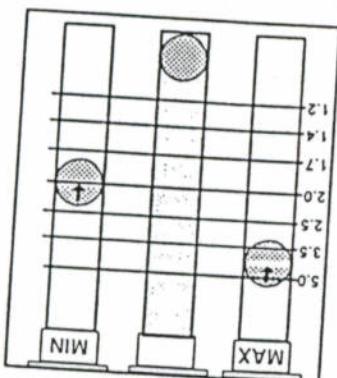
The TRI-GAUGE is for use in engineering, motor maintenance, public transport garages, marine engine rooms and many other applications where a GO / NO-GO test indicates suitable ability for continued service.

## 2 APPLICATION

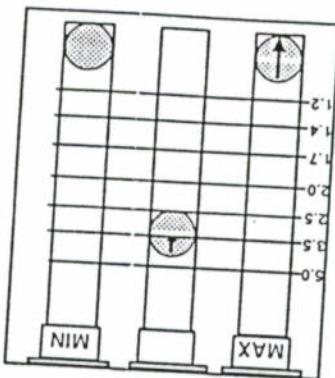
The TRI-GAUGE is a simple viscosity comparator based on the falling ball principle. It provides a simple and quick comparison of viscosity between a small sample of oil (10 mL) and two reference oils chosen to define the limits. The oils can be transparent or opaque.

## 1 DESCRIPTION

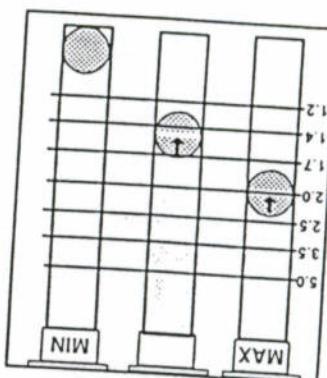
Sample viscosity is 0.5 times  
that of less viscous reference



Sample viscosity is 3.5 times  
that of more viscous reference

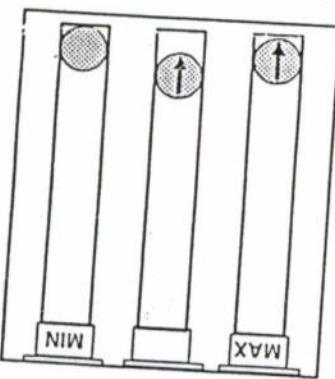


Sample viscosity is 1.5 times  
that of less viscous reference

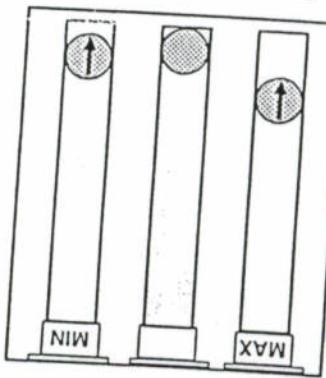


### RELATIVE VISCOSITY

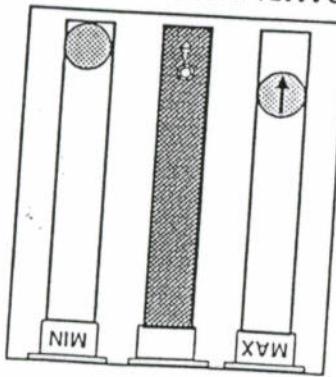
#### SAMPLE TOO VISCOS



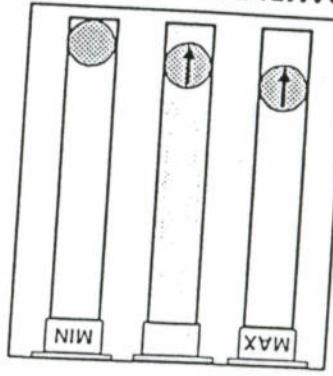
#### SAMPLE TOO FLUID



#### SAMPLE WITHIN LIMITS Opaque Sample Oil



#### SAMPLE WITHIN LIMITS Clear Oil



### EXAMPLE RESULTS



STANHOPE-SETA